EXHIBIT K

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15   UNITED STATES DISTRICT COURT
            NORTHERN DISTRICT OF CALIFORNIA
16   SAN FRANCISCO DIVISION"

17 GOOGLE LLC,   Case No. 3:20-cv-06754-WHA
                                        Related to Case No. 3:21-cv-07559-WHA
18   Plaintiff and Counter-defendant,
                                        REBUTTAL EXPERT REPORT OF
19   v.   **DR. KEVIN C. ALMEROTH**

20 SONOS, INC.,

21   Defendant and Counter-claimant.

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1 as the YouTube Music and Spotify services that exist today). *Id.* This networked multi-zone audio

2 system provided a new paradigm that advanced over the "conventional multi-zone audio

3 system[s]" discussed in the background of the '885 and '966 Patents that were connected by

4 speaker wire to a centralized A/V receiver and did not have the capability to communicate over a

5 data network or process digital data, which made such systems "inflexible," "difficult" to use, and

6 "not [] suitable" for many users. *See* '966 Patent at 1:46-2:16.[4]

7 127.   Each of the "zone players" in the networked multi-zone audio system described in

8 the '966 Patent (and in Sonos's own system at the time) was capable of playing back audio

9 individually (*i.e.*, on its own). *See, e.g.*, '966 Patent at 4:44-5:2, 5:21-6:27, 6:39-43. In addition,

10 each of the "zone players" in the networked multi-zone audio system described in the '966 Patent

11 (and in Sonos's own system at the time) was capable of being grouped together with one or more

12 other "zone players" so that the grouped "zone players" become configured for synchronous

13 playback. *Id.* at 5:16-20, 5:57-6:7, 6:43-48, 7:35-41, 7:58-9:30, 10:4-11:20. In this respect, each

14 "zone player" operated in one of two states at any given time: (i) a first state in which the "zone

15 player" is not actively grouped with any other "zone player" but rather is configured to play back

16 audio individually (*i.e.*, a non-grouped or standalone mode), whether or not the "zone player" is

17 engaging in active playback, or (ii) a second state in which the "zone player" is actively grouped

18 with one or more other "zone players" such that it is configured for synchronous playback as part

19 of that group (*i.e.*, a grouped mode), whether or not the group is engaging in active playback. *Id.*

20 128.   The '966 Patent goes on to explain that in a networked multi-zone audio system

21 like the one described in the '966 Patent, one process for grouping "zone players" together for

22

23 [4] I understand that the description of the networked multi-zone audio system in the '966 Patent
was based on Sonos's own networked multi-zone audio system, which Sonos began working on
in 2002 and commercially released in January 2005 under the name "The Sonos Digital Music

24 System." *See, e.g.,* https://www.sonos.com/en-us/how-it-started; Millington Dep. Tr. at 113:14-
20. In Sonos's networked multi-zone audio system that was released in January 2005, the "zone

25 players" were called "ZonePlayers" (model number "ZP100"), and there were two types of
"controlling devices" that could be used with the ZonePlayers – a computer installed with Sonos's

26 "Desktop Controller" software or a dedicated "Sonos Controller" handheld device (model number
"CR100"). Sonos's networked multi-zone audio system that was released in January 2005

27 provided a new paradigm that advanced over the "conventional multi-zone audio system[s]"

28 described in the '966 Patent.

synchronous playback involved a user selecting a particular set of "zone players" to group together in an ad-hoc manner, one-by-one, when the user wishes to listen to audio across the set of "zone players," which would then create a temporary, ad-hoc group. *Id.* at 8:30-45; '407 Provisional, at App'x A, 1. The '966 Patent also notes that this ad-hoc grouping process was being utilized by the commercial embodiment of Sonos's networked multi-zone audio system at the time of the invention of the '966 Patent in 2005. *See* '966 Patent at 8:42-44 (referring to this ad-hoc grouping process as the "current mechanism"); '407 Provisional, at App'x A, 1 (explaining that "[c]urrently in the Sonos UI, zone groups are created by manually linking zones one at a time until the desired zone grouping is reached"). However, the '966 Patent notes that this process "may sometimes be quite time consuming," because each time the user wishes to use a different group for synchronous playback, the user has to repeat the ad-hoc process of selecting each of the "zone players" to include in the group even if it is a grouping of "zone players" that has previously been formed and activated by the user on many other occasions in the past.   '966 Patent at 8:42-45, 54-56. This was a byproduct of the fact that a group of "zone players" created using the ad-hoc process was temporary – it only existed during the limited time that the group was activated for playback, and as soon as a user wanted to use a "zone player" in an existing group for individual playback or wanted to create a new group that included one or more of the "zone players" in the existing group, the existing group would need to be destroyed. Thus, the only way a user could use a group having that same group membership again in the future was by re-creating a new temporary group that included the same members as the previously-existing group.

129.   In view of these drawbacks with ad-hoc grouping, the '966 Patent disclosed a new process for grouping "zone players" together for synchronous playback in a networked multi-zone audio system using a "zone scene," which comprises a "predefined," "saved" group of "zone players" that can later be invoked on demand for synchronous playback. *Id.* at 8:45-9:30, 10:4-11:20, FIGs. 5A-B, 6; *see also* '407 Provisional at App'x A; D.I. 309 at 4 (the Court finding that "the '885 Patent allows a user to customize and save multiple groups of smart speakers or other players . . . and then later 'activate a customized group, called a 'zone scene,' on demand), 8 (the Court noting that the "basic purpose of the invention . . . is to allow users to pre-save customized

speaker groups and later 'invoke' the named group on demand"). This new grouping process enables a user to activate a group of "zone players" for synchronous playback in a more seamless manner, because instead of having to select each "zone player" to include in the group in a "time consuming" ad-hoc manner, the user can simply select a pre-saved "zone scene" comprising a predefined version of the group.

130.   As disclosed in the '966 Patent, a "zone scene" is first created and saved during an initial "setup" phase which involves using a controller device to add the particular "zone players" that are to be included in the predefined group to the "zone scene," assign a name to the "zone scene," and then save the "zone scene." *See, e.g.*, '966 Patent at 8:45-51, 10:4-19, 10:36-52, 11:12-19; '407 Provisional at App'x A, 1-2, 9-16. Once saved, the "zone scene" then becomes available to be "invoked" on demand at the request of a user so that the predefined group of "zone players" can later be activated for synchronous playback. *See, e.g.*, '966 Patent at 9:16-20, 10:53-63, 11:12-19, '407 Provisional at App'x A, 1-8.

131.   The '966 Patent further discloses that a user can set up multiple different "zones scenes" comprising multiple different predefined groups of "zone players," including predefined groups with overlapping members, which then provides the user with the flexibility to later invoke any one of these "zone scenes" at a desired time without having to re-construct the predefined group in an ad-hoc manner. *See, e.g.*, '966 Patent at 2:56-59 (disclosing that "*various scenes* may be saved in *any* of the members in a group,"), 8:52-9:19 (disclosing four different examples of "zone scenes" for a given system that have overlapping members), 10:4-6 (disclosing that when setting up a new "zone scene," a user is presented with a list of "the available zones in a household"), 10:12-19 (disclosing that when a user is selecting which "zone players to add during setup of each "zone scene," the user is presented with "ALL the zones in the system, including the zones that are already grouped"), 10:36-42 (disclosing an example where a user is presented with an "interface to select" from the "players in a household"), 10:51-52 (disclosing that after one "zone scene" has been set up, a user may "go back . . . to configure another [zone] scene if desired"), FIGs. 6, 8; *see also* '407 Provisional at 12-13 (disclosing a "Morning" "zone scene" comprising a predefined grouping of the "Bedroom, Den and Dining Room" players and "a simple

1   275.   Second, the Sonos Forums reference, as a whole, does not qualify as prior art under

2   §102(b). Specifically, I understand that the "Macro / presets" thread does not qualify as prior art

3   under §102(b) because it was not published more than one year before the claimed priority date of

4   September 12, 2006. As acknowledged by Dr. Schonfeld, the earliest post from the "Macro /

5   presets" thread is dated September 22, 2005, which is not more than one year before the claimed

6   priority date. Schonfeld Op. Report at ¶ 177; GOOG-SONOS-WDTX-INV-00015877 at 877.

7   276.   Similarly, Dr. Schonfeld has relied on several posts from the "virtual zones and

8   zone grouping" thread that do not qualify as prior art under §102(b) because they were not

9   published more than one year before the claimed priority date. In fact, there are only 5 posts from

10   the "virtual zones and zone grouping" thread (reproduced above) that could qualify as prior art

11   under §102(b), since every other post from that thread is dated no earlier than April 18, 2006. *See*

12   GOOG-SONOS-WDTX-INV-00015870.

13   277.   Moreover, I understand that a claimed invention cannot be anticipated or rendered

14   obvious by a prior art reference if the disclosures of that reference that are cited as alleged prior

15   art are not enabled. Thus, even if some aspects of the idea behind a "zone scene" were disclosed

16   in these threads, I do not find these threads enabling. Indeed, these threads are nothing more than

17   a wish list – they do not enable a POSITA as to how a "virtual zone" or saved "Zone links as

18   favorites" could be implemented. *Id;* GOOG-SONOS-WDTX-INV-00015877 at 877. Without

19   such enablement, the Sonos Forums reference does not qualify as prior art to the Asserted Claims

20   of the '966 Patent.

21   278.   Third, it is my opinion that the Sonos Forums reference does not qualify as prior

22   art under §102(f). In this regard, it is my opinion that Dr. Schonfeld has failed to establish both

23   (1) prior conception of the invention by another from the Sonos Forums, which must be a complete

24   conception of the claimed invention, and (2) communication of that prior conception to the named

25   inventor that is sufficient to enable him to construct and successfully operate the claimed invention,

26   which I understand are required under §102(f).

27   279.   In particular, Dr. Schonfeld has failed to establish prior conception of the inventions

28   set forth by the Asserted Claims of the '966 Patent by another from the Sonos Forums. In fact,

1   on September 22, 2005. 1/9/2023 Discussion with Mr. Lambourne.

2   282.   For instance, in an email to Mr. Schulert on April 11, 2005, Mr. Lambourne

3   disclosed "2 approaches" for his "zone scene" concept. SONOS-SVG2-00026888 at 888. In

4   particular, Mr. Lambourne disclosed an approach to "[a]llow a user to save Zone Profiles," which

5   would "allow a user with one click to put their Zones into predefined groups (think Party-mode,

6   but instead of[] linking all Zones, certain Zones get grouped." *Id*. Mr. Lambourne further

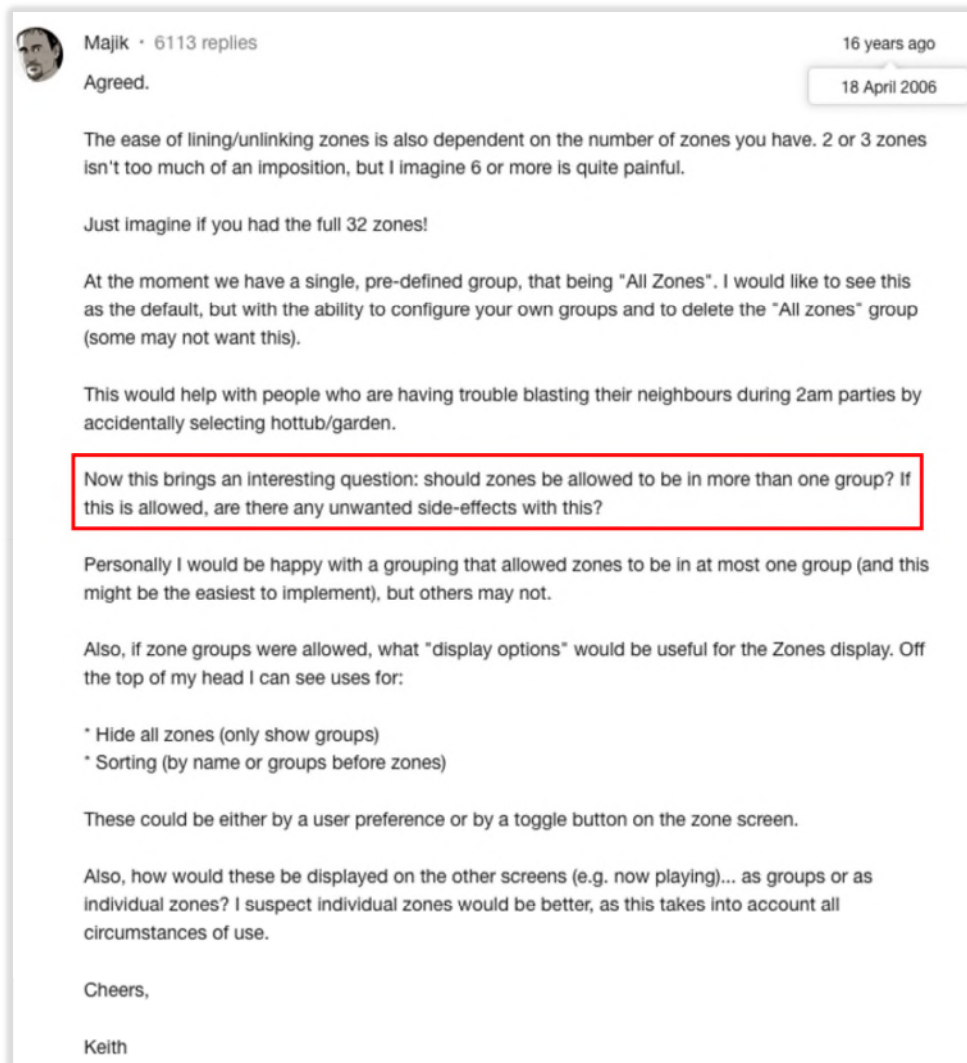7   disclosed "[e]xamples of possible group profiles," including the following:

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 - Examples of possible group profiles:
--"downstairs" (groups all downstairs rooms with one click)
--"upstairs" (groups all upstairs rooms with one click)
--"upstairs and downstairs" (puts upstairs zones in a group, and downstairs zones in another group)
--"mornings" (groups all living spaces and master bedroom, ungroups all bedrooms)
Etc etc.
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Id.

13   283.   Given that Mr. Lambourne already memorialized his thoughts on his "zone scene"

14   concept well before the earliest post from the "Macro / presets" thread, it is my opinion that the

15   Sonos Forums reference could not have evidenced *prior* conception.

16   284.   Further, even if the Sonos Forums reference did disclose the idea of "zones scenes,"

17   I have seen evidence from the Sonos Forums reference casting doubt as to how overlapping "zone

18   scenes" would have worked in Sonos's system. For example, even after the claimed conception

19   date, a post from "Majik" on April 18, 2006 in the "virtual zones and zone grouping" thread

20   suggests that there were concerns about potential "side-effects" if "zones [can] be allowed to be in

more than one group":

Majik · 6113 replies   16 years ago

Agreed.   18 April 2006

The ease of lining/unlinking zones is also dependent on the number of zones you have. 2 or 3 zones isn't too much of an imposition, but I imagine 6 or more is quite painful.

Just imagine if you had the full 32 zones!

At the moment we have a single, pre-defined group, that being "All Zones". I would like to see this as the default, but with the ability to configure your own groups and to delete the "All zones" group (some may not want this).

This would help with people who are having trouble blasting their neighbours during 2am parties by accidentally selecting hottub/garden.

Now this brings an interesting question: should zones be allowed to be in more than one group? If this is allowed, are there any unwanted side-effects with this?

Personally I would be happy with a grouping that allowed zones to be in at most one group (and this might be the easiest to implement), but others may not.

Also, if zone groups were allowed, what "display options" would be useful for the Zones display. Off the top of my head I can see uses for:

* Hide all zones (only show groups)
* Sorting (by name or groups before zones)

These could be either by a user preference or by a toggle button on the zone screen.

Also, how would these be displayed on the other screens (e.g. now playing)... as groups or as individual zones? I suspect individual zones would be better, as this takes into account all circumstances of use.

Cheers,

Keith

GOOG-SONOS-WDTX-INV-00015870 at 871.

285.   I have also seen evidence from other Sonos threads suggesting that, even in 2016, users were skeptical as to how overlapping "zone scenes" could have worked in Sonos's system:
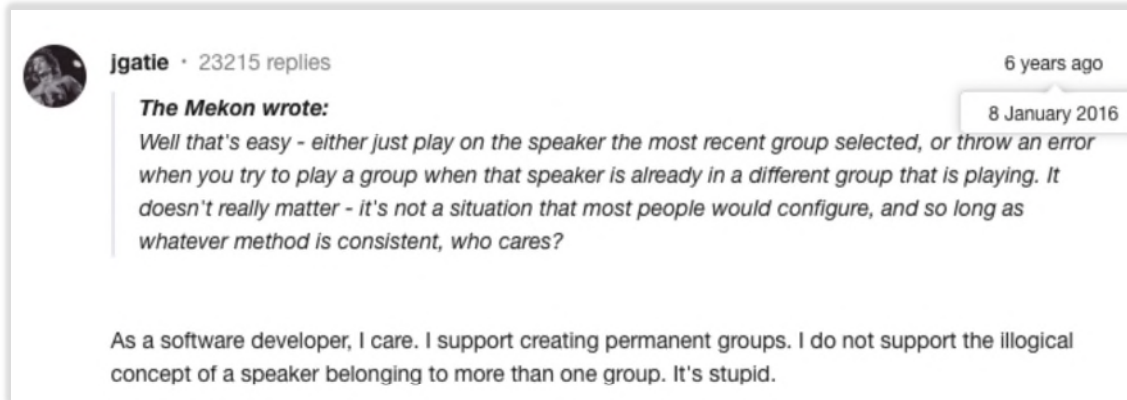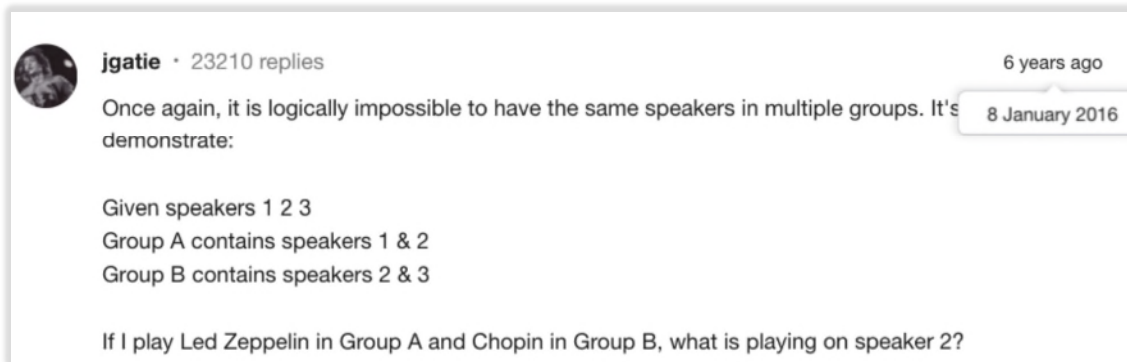
SONOS-SVG2-00226916 at 916.

286.   Because there is no prior conception, there is also no communication of prior conception, which I understand is further required under §102(f). But even if there was evidence of prior conception from the Sonos Forums, Dr. Schonfeld still failed to establish any communications of the Sonos Forums to the named inventor Mr. Lambourne.

287.   Specifically, Dr. Schonfeld relies on Mr. Farrar's testimony to establish that "Sonos's product management team (likely including Mr. Lambourne) was made aware of the issues raised in the Forum thread." Schonfeld Op. Report at ¶ 179 (citing Farrar Dep. Tr. at 91:13-94:7). But Mr. Farrar is not the named inventor of the '885 and '966 Patents, and Mr. Farrar testified that he did not know whether the Sonos Forums reference was communicated to the named inventor Mr. Lambourne. *See* Farrar Dep. Tr. at 93:12-14. In this regard, Dr. Schonfeld merely speculates that "Sonos's product management team (*likely* including Mr. Lambourne) was made aware of the issues raised in the Forum thread." Schonfeld Op. Report at ¶ 179.

288.   Moreover, Dr. Schonfeld's reliance on Mr. Lambourne's testimony that Mr. Lambourne generally "read forum posts from time to time" (*id.* (citing Lambourne Dep. Tr. at

1   time, because a zone player's membership within one ad-hoc group was mutually exclusive to its

2   ability to operate as a member of another ad-hoc group (or to play back audio on its own). Thus,

3   once a "zone player" was a member of a first ad-hoc group, the only way that a user could create

4   a second ad-hoc group that included the "zone player" as a member was by first removing the

5   "zone player" from the first ad-hoc group (and thereby destroying the first ad-hoc group) – it was

6   not possible for a "zone player" to be a member of multiple different ad-hoc groups that were in

7   existence and available for selection by a user contemporaneously.

8   495.   Fourth, the user-customized groups that are predefined and pre-saved as part of the

9   "zone scenes" are persistent, which means that not only are they able to exist prior to being

10   activated, but they also remain in existence after a user chooses to uninvoke a previously-invoked

11   "zone scene" and thereby deactivate the group. In contrast, an ad-hoc group was temporary – it

12   only exists during the limited time that the group was activated for playback, and once a user

13   decided to deactivate the ad-hoc group, it was destroyed such that the user could not re-use the ad-

14   hoc group in the future.

15   496.   Because of these distinctions, the claimed technology for creating and invoking

16   "zone scenes" provided users with a new way to group "zone players" together for synchronous

17   playback in a networked multi-zone audio system, which was intended to improve upon certain

18   drawbacks with both the existing process for grouping players in "conventional multi-zone audio

19   systems" as well the existing process for grouping "zone players" together for synchronous

20   playback that was being practiced by Sonos's own commercial system at the time of the invention

21   of the '966 Patent in 2005. *See* '966 Patent at 1:30-2:24, 8:30-45. Indeed, as the Court recognized

22   in its Order re Cross Motions for Partial Summary Judgment as to Claim 1 of the '885 Patent,

23   "[t]he claimed ability to customize and save overlapping speaker groups and easily control group

24   playback represents a clear technological improvement over the 'conventional multi-zone audio

25   system,' which, as the specification explained, presents significant technological and physical

26   obstacles to forming speaker groups." D.I. 309 12; *see also id*. at 3-5, 8, 13, 16.

27   497.   Turning to Sonos's system as it existed in 2005, the evidence I have reviewed

28   establishes that the controller(s) (e.g., a Sonos CR100) in Sonos's 2005 system did not have ***any***

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functional capability for creating or invoking a "zone scene" – let alone the required functional capability to cause the creation of two different, overlapping "zone scenes" that are both available for selection by a user and then later cause a selected one of the two different "zone scenes" to be invoked, as required by Asserted Claim 1 of the '966 Patent.

498.   As an initial matter, the Sonos UI Specification for "Zone Scenes" establishes that Sonos controllers in Sonos's 2005 system did not have any functional capability for creating or invoking a "zone scene."   In particular, that Sonos UI Specification, which was created on December 20, 2005 and modified on December 21, 2005, includes the following "Introduction" section:

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1   Introduction

The Zone Scene feature allows the user to arrange the zones into groups using one single command. This is similar to the current Party Mode setting that is available. However, the Zone Scene feature is much more flexible and powerful.

Currently in the Sonos UI, zone groups are created by manually linking zones one at a time until the desired zone grouping is reached.

For Example

Start with **Living Room**

➢ Link the Kitchen to the Living Room to make a group of **(Living Room + Kitchen)**
➢ Then link the Den to the **(Living Room + Kitchen)** to make a group of **(Living Room + Kitchen + Den)**

The Zone Scene feature would allow the user to create a group of **(Living Room + Kitchen + Den)** with one command.

SONOS-SVG2-00026839-58 at SONOS-SVG2-00026840; *see also* '407 Provisional, at App'x A, 1 (attaching another version of the Sonos UI Specification for "Zone Scenes").

499.   This "Introduction" section of Sonos's UI specification for "Zone Scenes" confirms that the "current[]" mechanism for grouping ZonePlayers in Sonos's system in December 2005 was an ad-hoc grouping approach whereby "zone groups [were] created by manually linking zones one at a time until the desired zone grouping is reached." *Id*. In turn, the Sonos UI specification for "Zone Scenes" goes on to introduce and describe the "zone scenes" technology that is described and claimed in the '966 Patent as a new feature that would provide an alternative to the "current"

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1   ad-hoc grouping approach being practiced by Sonos's system at the time. *Id.* (also noting that "the

2   Zone Scene feature is much more flexible and powerful" than the "current Party Mode setting that

3   is available"); *see also* '966 Patent at 8:30-61 (explaining that the "*current* mechanism" for

4   "'joining' zone players together for music playback" was an ad-hoc grouping process whereby a

5   user "must start with a single zone and then manually link each zone to that zone" at the time the

6   user wishes to use the group for synchronous audio playback, and then introducing and describing

7   the "zone scenes" technology as a new feature that would provide an alternative to this "current

8   mechanism" for grouping).

9   500.   Several other objective aspects of this UI specification document confirm that

10 Sonos's 2005 system did not have the features discussed in the UI specification and that this was

11 a proposal for a feature addition to Sonos's 2005 system as it existed in December 2005. First, the

12 document bears a version number ("Version 001"), which is something generally found on draft

13 documents that change over time as features are modified:
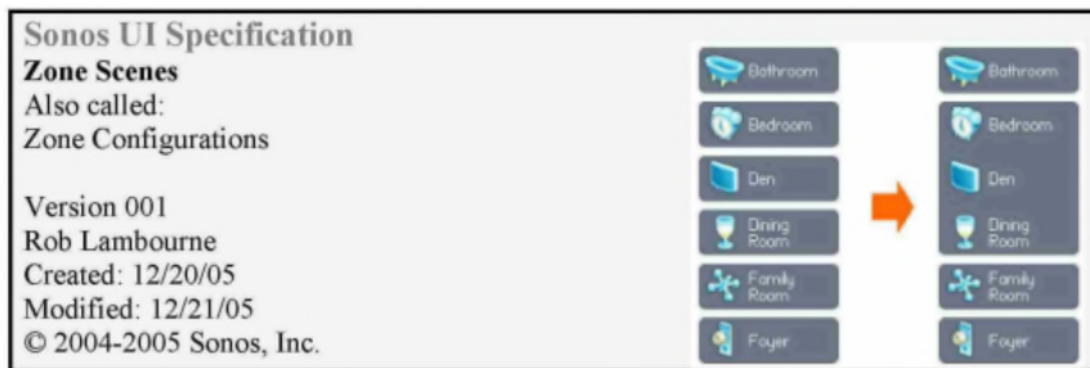
21   501.   Second, the footer bears the legend "FOR INTERNAL USE ONLY," which further

22 confirms that this was a working draft of a confidential feature that was still under development

23 and not yet released:
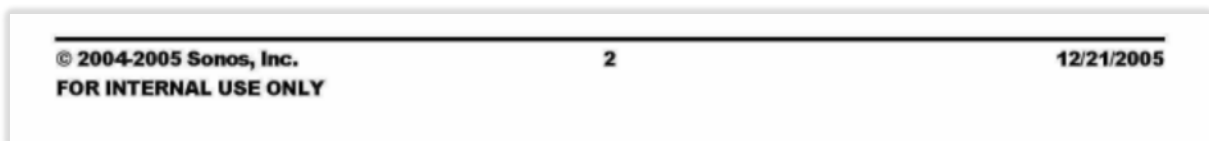
27   502.   This document alone definitively establishes that Sonos controllers in Sonos's 2005

28 system did not have any functional capability for creating or invoking a "zone scene."

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1   503.   The "Sonos Digital Music System User Guide" dated April 2005 ("Sonos 2005

2   User Guide") also establishes that Sonos controllers in Sonos's 2005 system did not have any

3   functional capability for creating or invoking a "zone scene." For instance, in the chapter on the

4   Sonos "Desktop Controller Software" for Windows, the Sonos 2005 User Guide includes a section

5   entitled "Zone groups" where it describes the grouping capabilities of Sonos's 2005 system that

6   existed at the time. That "Zone groups" section begins by explaining as follows:

7
8   A zone can be grouped together with any other zone(s) to form a zone group. This will
        cause all the zones in the zone group to play the same music. You can link or drop
9   zones from a zone group while the music is playing. You can also link all the
        ZonePlayers in your house with one touch by selecting **All Zones-Party Mode**.

10 Sonos 2005 User Guide (Lambourne Dep. Exs. 1077-1078), at 3-11; *see also id*. at 5-8. To provide

11 some additional context for this passage, my understanding is that Sonos's 2005 system used

12 "zones" as a way to logically identify ZonePlayers in Sonos's 2005 system in a more user-friendly

13 manner. In this respect, my understanding is that each ZonePlayer in Sonos's 2005 system would

14 have been identified in terms of a respective "zone," which typically would have been a descriptor

15 of a room or other area within a user's listening environment. Thus, my understanding is that the

16 discussion of grouping "zones" in the foregoing passage is a reference to grouping ZonePlayers in

17 Sonos's 2005 system. My understanding set forth above is based on my review of various evidence

18 related to Sonos's 2005 system as well as my discussion with Mr. Millington, and is further

19 confirmed by the portion of the foregoing passage stating that "You can link all the ***ZonePlayers***

20 in your house with one touch by selecting ***All Zone***-Play Mode." *Id*. (emphasis added); 7/19/2022

21 Discussion with Mr. Millington.

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504.   In turn, the "Zone groups" section describes the process for creating a "zone group" as follows:

To link a zone to a zone group

You can create a zone group first and then select music to play, or you can add a zone to a zone group where music is already playing.

> **Note:** Any zones you link will automatically drop their current music queue and begin to play the music queue from the highlighted zone. You may sometimes want to save your music queue before linking a zone. See "To create a Sonos playlist" on page 3-17.

1.   From the **Zones** pane, highlight the zone you want to link another zone or zone group to.

2.   Choose one of the following options:

   • Click **Link Zone.**

Or,

   • From the **Zones** menu, click **Link Zone.**

Link Zone

Select a zone to link to:
Kitchen

[All Zones - Party Mode]
Jack's room

OK   Cancel

3.   Select a zone to add to the group, and click **OK.** If you want to join all the zones in your house to this music queue, select **All Zones-Party Mode.** All of your ZonePlayers will then play the same music until you drop the zones from the zone group.

> **Note:** The order in which you add a zone makes a difference. If you select **Link Zone** from a zone where there is no music playing, any zone you link to it will also be silent.

Id. at 3-12.

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505.   The Sonos 2005 User Guide also includes a similar "Zone groups" section in the chapter on the Sonos CR100 Controller, as shown below:
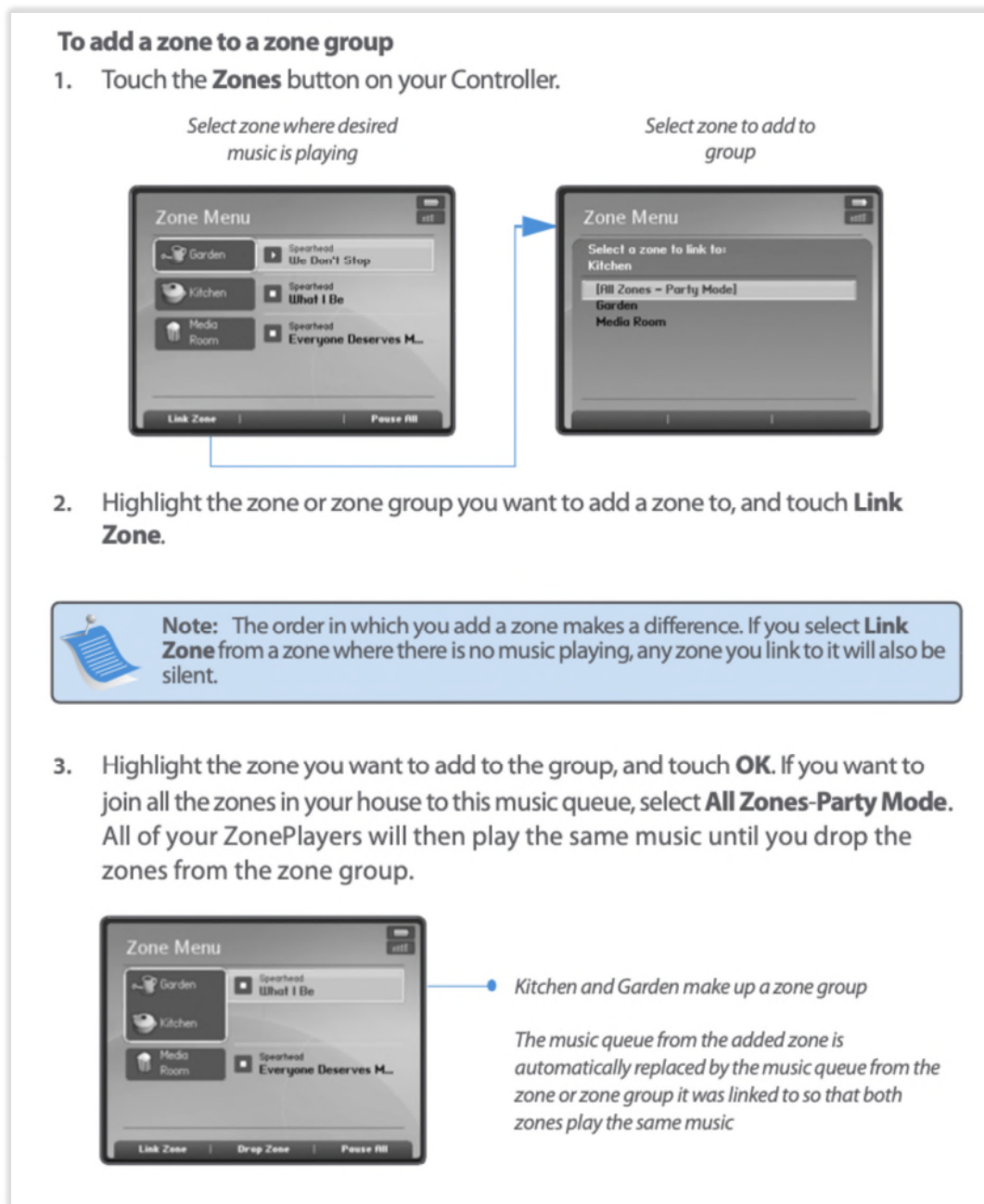
Id. at 5-9.

506.   As demonstrated by the above excerpts from the Sonos 2005 User Guide, a user could create a new "zone group" using a Sonos controller by selecting a specific set of ZonePlayers (logically identified as zones) in a Sonos system to group together into the "zone group," such as a Kitchen + Jack's Bedroom group or a Garden + Kitchen group, and the act of creating this new

"zone group" would then "*cause all the zones in the zone group to play the same music.*" *Id*. at 3-11. Additionally, the Sonos 2005 User Guide notes that "[a]ny zones you link [into a zone group] *will automatically drop their current music queue and begin to play the music queue from the highlighted zone,*" and that if "there is no music playing" in the highlighted zone, then "any zone you link to it will also be silent." *Id*. at 3-12, 5-8, 5-9.

507.   The 2005 User Guide also explains that once a new "zone group" is formed and thereby activated, all of the ZonePlayers in the "zone group" "will then play the same music until you drop the zones from the zone group." *Id*. at 5-9. The 2005 User Guide then goes on to describe the process "[t]o drop a room from your zone group" as follows:

To drop a room from your zone group

1.   Touch the **Zones** button on your Controller.

2.   Use the scroll wheel to highlight the zone group you want to change, and touch **Drop Zone.**

3.   Highlight the zone you want to drop from the group, and touch **OK.** The room that's removed from the zone group stops playing music. The other zones in the zone group continue unaffected.

508.   As demonstrated by the above excerpt from the Sonos 2005 User Guide, once a ZonePlayer is removed from a "zone group," that ZonePlayer "stops playing music" in accordance with the "zone group" while "[t]he other zones in the zone group continue unaffected." *Id*. at 5-10.

509.   Based on the foregoing description, it is clear that a "zone group" created in this manner only existed temporarily during the limited time that the group was activated for playback, and as soon as a user wanted to use a ZonePlayer in an existing group for individual playback or wanted to create a new group that included one or more of the ZonePlayers in the existing group, the existing group would need to be destroyed by removing the one or more ZonePlayers that the user wanted to use for individual playback or wanted to include in a new "zone group." 7/19/2022 Discussion with Mr. Millington; 1/9/2023 Discussion with Mr. Lambourne. As a result, the only way a user could use a group having that same group membership again in the future was by re-creating a new temporary group that included the same members as the previously-existing group. *Id*. And as explained above, such a temporary, ad-hoc group that was automatically activated at the time of creation and then only remained in existence during the limited time it was activated is distinctly different from a "zone scene," which requires a user-customized, pre-saved group of "zone players" that is able to exist in an inactive state while remaining available for selection by a user so that it can later be invoked on demand for synchronous playback.

510.   Indeed, as an initial matter, a "zone group" of ZonePlayers was not a pre-saved group that was available to be *later invoked on demand* for synchronous playback at some time after the creation of the "zone group," which is a fundamental requirement of the claimed "zone scenes." *Id*. To the contrary, a "zone group" of ZonePlayers was a temporary, ad-hoc group that was automatically activated at the time it was created and then only remained in existence until the time that the "zone group" was deactivated, at which time the "zone group" would be automatically destroyed such that the "zone group" was <u>not</u> available to be *later invoked on demand* for synchronous playback. *Id*.

511.   Further, a "zone group" of ZonePlayers was not a pre-saved group that was *able to exist in an inactive state* in which the pre-saved group was available for selection by a user but the "zone players" in the pre-saved group could still be used for individual audio playback (or as part of another group), which is another fundamental requirement of the claimed "zone scenes." *Id*. To the contrary, a "zone group" of ZonePlayers was only able to exist in an active state during which time it was not possible for a user to use any of the ZonePlayers added to the "zone group"

1   for individual audio playback, and once a "zone group" was deactivated, it would be automatically

2   destroyed such that it was no longer available for selection by a user. *Id*.

3   512.   Further yet, a "zone group" of ZonePlayers was not capable of having a group

4   member that was also a member of a different "zone group" available for selection by a user, which

5   is another requirement of the claimed "zone scenes." *Id*. To the contrary, a ZonePlayer could only

6   be a member of one "zone group" that was in existence at any given time, and the only way a

7   ZonePlayer in a first "zone group" could have been added to a second "zone group" was to destroy

8   the first "zone group." *Id*.

9   513.   Lastly, there was no ability for a user to assign a thematic name to a "zone group,"

10 which fails to meet the additional "according to a common theme" requirement of Google's

11 proposed construction of a "zone scene," as interpreted by the Court. *Id*.

12   514.   Thus, for at least these reasons, it is my opinion that a "zone group" created by

13 selecting a specific set of ZonePlayers in a Sonos system to group together into the "zone group"

14 in an ad-hoc manner does not constitute a "zone scene."

15   515.   As demonstrated by the above excerpts from the Sonos 2005 User Guide, a user

16 could also create a new "zone group" by selecting the "All Zones-Party Mode" option, which

17 would then cause all of the ZonePlayers in a Sonos system to "play the same music until you drop

18 the zones from the zone group." Sonos 2005 User Guide (Lambourne Dep. Exs. 1077-1078), at

19 3-12, 5-9. This "All Zones-Party Mode" option, which was hard-coded into the Sonos Desktop

20 Controller software and the Sonos CR100 Controller firmware, provided an alternative way for a

21 user to create a new "zone group" including all ZonePlayers in a Sonos system that avoided the

22 need for the user to select each of the group members one at a time during the process of creating

23 the "zone group." 7/19/2022 Discussion with Mr. Millington; 1/9/2023 Discussion with Mr.

24 Lambourne.

25   516.   However, because the "All Zones-Party Mode" option was hard-coded into the

26 Sonos Desktop Controller software and the Sonos CR100 Controller firmware, it was not a user-

27 created, customized group that was predefined and pre-saved at a user's request as part of an initial

28 "setup" phase, which is a required aspect of the claimed "zone scenes." *See* Case No. 20-6754,

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1 D.I. 309 at 4 (the Court finding that Sonos's patented "zone scene" technology ""allows a *user to*

2 *customize and save* multiple groups of smart speakers or other players . . . and then later 'activate

3 a *customized* group, called a 'zone scene,' on demand), 8 (the Court noting that the "basic purpose

4 of the invention . . . is to allow *users to pre-save customized speaker groups* and later 'invoke' the

5 named group on demand"), 12 (the Court finding that "[*t]he claimed ability to customize and save*

6 *overlapping speaker groups* and easily control group playback represents a clear technological

7 improvement over the 'conventional multi-zone audio system,' which, as the specification

8 explained, presents significant technological and physical obstacles to forming speaker groups").

9   517.   Further, because the "All Zones-Party Mode" option was hard-coded into the Sonos

10 Desktop Controller software and the Sonos CR100 Controller firmware – and thus was not a user-

11 created, customized group that was predefined and pre-saved at a user's request as part of an initial

12 "setup" phase – the "All Zones-Party Mode" option of Sonos's 2005 system also fails to meet

13 several other limitations of Asserted Claim 1 of the '966 Patent. For instance, a Sonos controller

14 in a Sonos system never received "a request to create" the "All Zones-Party Mode" option, never

15 "caus[ed] creation of" the "All Zones-Party Mode" option, never "caus[ed] an indication of" the

16 "All Zones-Party Mode" option to be transmitted to a ZonePlayer based on a "request to create"

17 that option, and never "caus[ed] storage of" the "All Zones-Party Mode" option based on a "request

18 to create" that option. 7/19/2022 Discussion with Mr. Millington; 1/9/2023 Discussion with Mr.

19 Lambourne.

20   518.   Further yet, there was no ability for a user to assign a thematic name to the "All

21 Zones-Party Mode" option, which fails to meet the additional "according to a common theme"

22 requirement of Google's proposed construction of a "zone scene," as interpreted by the Court.

23 7/19/2022 Discussion with Mr. Millington; 1/9/2023 Discussion with Mr. Lambourne.

24   519.   Thus, for at least these reasons, it is my opinion that the "All Zones-Party Mode"

25 option provided by Sonos's 2005 system was merely just a different way to create an ad-hoc "zone

26 group," and also does not constitute a "zone scene." *See also* SONOS-SVG2-00026839-58 at

27 SONOS-SVG2-00026840 (explaining that the "Zone Scene feature" is "similar to the current Party

28 Mode setting that is available" but that "*the Zone Scenes feature is much more flexible and*

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1   *powerful*").

2   520.   I further note that the Sonos 2005 User Guide never uses the term "zone scenes" or

3   otherwise describes any technology that would have enabled a user to create a user-customized,

4   pre-saved group of ZonePlayers that was able to exist in an inactive state while remaining available

5   for selection by a user so that it could later be invoked on demand for synchronous playback, which

6   further confirms that the Sonos controllers in Sonos's 2005 system did not have any functional

7   capability for creating or invoking a "zone scene."

8   521.   I have also seen various other Sonos documents confirming that Sonos controllers

9   in Sonos's 2005 system did not have any functional capability for creating or invoking a "zone

10   scene." As one example, in an April 2005 email chain between Sonos employees Rob Lambourne

11   (inventor of the '885 and '966 Patent) and Andrew Schulert, Mr. Schulert notes that "one of the

12   problems with our system is we don't have a way of permanently linking zones together."

13   SONOS-SVG2-00026888. In response, Mr. Lambourne proposes a feature that would "[a]llow a

14   user to save Zone Profiles" that "would allow a user . . . to put their Zones into predefined

15   groups…" *Id.* Mr. Schulert's comments noting that the current Sonos system does not have a way

16   to create "permanent" groups and Mr. Lambourne's proposal to add a "predefined groups" feature

17   in April 2005 further confirms to me that Sonos controllers in Sonos's system at this time did not

18   have any functional capability for creating or invoking a "zone scene."

19   522.   As another example, entries in Mr. Lambourne's notebook dated October-

20   November 2005 memorialize his ongoing work on the "zone scene" concept at this time, which

21   further confirms that Sonos controllers in Sonos's 2005 system did not have any functional

22   capability for creating or invoking a "zone scene." SONOS-SVG2-00026625 at 648 (showing Mr.

23   Lambourne's work on "permanent groupings?" and "group profiles"); *id.* at 653 (showing Mr.

24   Lambourne's work on "Perma Groups"); *id.* at 666 (showing Mr. Lambourne's work on "Room

25   Configurations" including "Morning Mode" and "Working Mode"); *id.* at 668 (showing Mr.

26   Lambourne's work on a proposal for how ZonePlayers might be selected for including in a "Zone

27   groupings/Macro").

28   523.   As another example, in an email exchange dated July 6, 2006, Mr. Schulert asks

Mr. Lambourne if he "ha[s] a list of small 'nice-to-have' feature requests," to which Mr. Lambourne responds with a list of features that did not exist in the then-current Sonos system but were requested, including noting that "there are some biggies like "Zone Scenes." SONOS-SVG2-00026916. That Mr. Lambourne was referring to "zone scenes" as a requested feature in July 2006 further confirms that Sonos controllers in Sonos's system through this time period, including 2005, did not have any functional capability for creating or invoking a "zone scene."

524.   Additionally, I have reviewed the "v1.2-gold" snapshot of Sonos's source code that Dr. Schonfeld appears to be relying on in his Opening Report, which I understand to be from July 2005, and I did not see any source code modules that provided "zone scenes" capability, which also supports my opinion that Sonos controllers in Sonos's 2005 system did not have any functional capability for creating or invoking a "zone scene."

525.   For completeness, I further note that the evidence summarized above likewise establishes that the ZonePlayers in Sonos's 2005 system did not have any functional capability to be added to a "zone scene" that was created at the request of a user or to operate in accordance with "zone scene" that was invoked at the request of a user.   Rather, the ZonePlayers in Sonos's 2005 system were only capable of being added to and operating in accordance with a temporary, ad-hoc "zone group," which was not a "zone scene" for all of the reasons explained above.

526.   Lastly, as noted above, my opinion that the Sonos controllers and ZonePlayers in Sonos's 2005 system did not have the "zone scenes" capability that is described and claimed in the '966 Patent is supported by conversations I have had with Nick Millington and Rob Lambourne, who confirmed that the Sonos controllers and ZonePlayers in Sonos's 2005 system did not have the "zone scenes" capability that is described and claimed in the '966 Patent. I understand that both Mr. Millington and Mr. Lambourne have been Sonos employees since 2003, and during the 2005-06 timeframe, Mr. Millington and Mr. Lambourne were heavily involved in designing and developing the technology that was being practiced by Sonos's system as it existed in 2005.

527.   Despite this clear evidence establishing that the Sonos controllers and ZonePlayers in Sonos's 2005 system did not have any "zone scene" capability, Dr. Schonfeld nevertheless

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680.   Still further yet, the foregoing posts do not disclose or suggest any particular functionality for storing a "mode" or a "virtual zone," let alone the claimed functionality whereby a "computing device" that is "serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players" causes a "zone scene" to be stored at a "zone player" that is a group member of the "zone scene," as required by Asserted Claim 4 of the '966 Patent. In this way, the foregoing posts appear to express nothing more than mere hope that Sonos would someday invent a "zone scene" functionality that had not been achieved before. *See, e.g.,* GOOG-SONOS-WDTX-INV-00015877 at 877 ("I would like to setup say Morning mode …."); GOOG-SONOS-WDTX-INV-00015870 at 870 ("Why can't I have a virtual zone …. PLEASE!").[27]

681.   Dr. Schonfeld also attempts to rely on Mr. Lambourne's testimony to conclude that "the users requesting 'virtual zones' and 'macro' or 'preset' groups disclosed the 'zone scene' concept." Schonfeld Op. Report at ¶ 361. However, Mr. Lambourne testified that his claimed "zone scene" functionality addressed the need of the foregoing users; not that the foregoing users disclosed the claimed "zone scene" functionality. Lambourne Dep. Tr. at 131:3-7 ("Did you invention address the concerns of these users through adding Zone Scenes? … THE WITNESS: Yes. My invention would describe the need described here."). In fact, as discussed above, Mr. Lambourne already memorialized his thoughts on his "zone scene" concept at least 4 months before the foregoing post by user "JeffT." *Supra* Sections XIII.C, XI.B.

682.   Because the Sonos Forums reference fails to disclose or suggest a "computing device" that is programmed with the controller-side "zone scenes" functionality required by the Asserted Claims of the '966 Patent, even if a POSITA in 2005-06 were to modify Sonos's 2005 system to incorporate the discussion in the identified user posts from Sonos Forums, it is my

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[27] With respect to the February 27, 2005 "Virtual Zones and Zone Grouping" post, Dr. Schonfeld asserts that "two different 'party modes, Summer and Winter,' [] overlapped because '[t]he Summer mode would include the deck speakers and the Winter mode would not.'" Schonfeld Op. Report ¶ 363. I disagree. This post just says that "[t]he Summer mode would include the deck speakers and the Winter mode would not." It says nothing about the two "modes" having any speakers in common.

1   opinion that a Sonos controller in such a modified Sonos system still would not have the "zone

2   scenes" capability required by the Asserted Claims of the '966 Patent.

3   683.   Third, Dr. Schonfeld has failed to provide any explanation as to how Sonos's 2005

4   system would have actually been modified to combine it with the subject matter discussed in the

5   identified user posts from Sonos Forums – let alone how that alleged combination would have

6   achieved the claimed invention.

7   684.   Fourth, I disagree that these two isolated Sonos Forum posts demonstrate that a

8   POSITA in 2005-06 would have been motivated to replace Sonos's ad-hoc "zone group"

9   functionality with the specific "zone scenes" functionality required by either Asserted Claim 1 of

10   the '885 Patent or Asserted Claim 1 of the '966 Patent (which go well beyond what is discussed

11   in the Sonos Forums posts), particularly in view of all of the other evidence showing that the

12   existing ad-hoc "zone group" functionality of Sonos's 2005 system was being praised at the time,

13   as well as the time, effort, and cost that would have been required to overhaul the grouping mechanism

14   of Sonos's 2005 system.

15   685.   I have also seen other Sonos Forum posts contradicting Dr. Schonfeld's theory that

16   a POSITA would have been motivated to replace Sonos's ad-hoc "zone group" functionality with

17   the claimed "zone scene" functionality in view of the identified user posts from the Sonos Forums.

18   For instance, as explained above, I have seen other user posts from the Sonos Forums casting doubt

19   as to how overlapping "zone scenes" would have worked in Sonos's system. For example, even

20   after the claimed conception date, a post from "Majik" on April 18, 2006 suggests that there were

21   concerns about potential "side-effects" if "zones [can] be allowed to be in more than one group."

22   GOOG-SONOS-WDTX-INV-00015870 at 871. I have also seen evidence from other Sonos

23   threads suggesting that, even in 2016, users thought overlapping "zone scenes" would have been

24   "logically impossible" to implement in Sonos's system. SONOS-SVG2-00226916 at 916. Given

25   this skepticism, it is my opinion that a POSITA would have been dissuaded from modifying

26   Sonos's 2005 system in view of the identified user posts from the Sonos Forums.

27   686.   Fifth and finally, because there is no evidence that a POSITA in 2005-06 would

28   have been motivated to modify Sonos's 2005 system in view of the identified user posts from the

player-side "zone scenes" functionality required by Asserted Claim 1 of the '885 Patent or the specific controller-side "zone scenes" functionality required by the Asserted Claims of the '966 Patent that Dr. Schonfeld failed to analyze.

708.   Third, Dr. Schonfeld has failed to provide any explanation as to how Sonos's 2005 system would have actually been modified to combine it with the identified functionality of Nourse's "centralized speaker system" – let alone how that alleged combination would have achieved the claimed invention.

709.   Fourth, I disagree that a POSITA in 2005-06 would have been motivated to modify Sonos's 2005 system to combine it with the identified functionality of Nourse's "centralized speaker system." As discussed above, Sonos's 2005 system already included ad-hoc "zone group" functionality that allowed the ZonePlayers to be grouped together on demand for synchronous playback (albeit in a different way than the claimed "zone scenes" functionality). The evidence I have seen shows that this ad-hoc "zone group" functionality was being praised throughout the industry. *See, e.g.*, GOOG-SONOS-NDCA-00108095 at 365 (disclosing that Sonos's system in 2006 was "pure heaven" and touting that "[y]ou can perform some pretty sophisticated stunts using that remote, like directing different streams of music to different rooms, linking several rooms so that they all play the same music…."); SONOS-SVG2-00234176 at 76-77 (Feb. 3, 2005 PC Magazine article stating Sonos's ZP100 "is the first digital audio hub we can recommend without reservation. . . . It can play the same music throughout the house, perfectly synchronized. Even though that may seem drop-dead simple, other hubs don't do it. And you can join multiple rooms to play the same music . . . on the fly."); SONOS-SVG2-00227422 (March 22, 2005 PC Magazine article stating the same); SONOS-SVG2-00234162 at 62-64 (Feb. 24, 2005 Wall Street Journal article stating "[t]he Sonos system is easily the best music-streaming product I have seen and tested," and "[i]t's the Lexus of the category" at least because "[t]he system works in multiple rooms of a home, allowing you to play . . . the same songs, in each room simultaneously . . . . you can group the 'Zones,' so several receive the same music simultaneously."); SONOS-SVG2-00234165 (listing various "[a]wards, accolades and achievements" by Sonos in 2004-2006); SONOS-SVG2-00234171 (same); SONOS-SVG2-00234181 (2005 Playlist Magazine article stating "[y]ou can control each ZonePlayer independently of the others, or you can

1   sync all of them for full-house entertainment. The result? The music you want, in whatever rooms you

2   want -- the whole-house-music thing done right . . . . Where the Sonos system stands out from similar

3   systems is in its zone management. Using the Controller's Zone menu, you can easily link zones to

4   play the same music in sync . . . ."); SONOS-SVG2-00234182 at 84 (Dec. 2005 LA Audio file article

5   stating "[u]sing the Link Zone feature, users can link some or all of the listening zones to a single

6   group. This is particularly useful when having a party or when one might be moving from one room

7   to another within the house and would like to hear the same music."), at 86 ("Having seen so many

8   options for distributing audio in today's homes, I can't think of a better all-around product than the

9   Sonos Digital Music System."). And conversely, I have not seen any evidence suggesting that a

10   POSITA in 2005-06 would have recognized any particular problem with Sonos's ad-hoc "zone group"

11   functionality that would have led such a POSITA to consider a different mechanism for grouping

12   ZonePlayers in Sonos's 2005 system on demand for synchronous playback – let alone would have led

13   such a POSITA to implement the identified functionality of Nourse's "centralized speaker system."

14   For at least these reasons, I disagree that a POSITA in 2005-06 would have been motivated to replace

15   the existing ad-hoc "zone group" functionality of Sonos's 2005 system with the identified functionality

16   of Nourse's "centralized speaker system," particularly in view of the time, effort, and cost that would

17   have been required to overhaul the grouping mechanism of Sonos's 2005 system.

18   710.   Nevertheless, in his Opening Report, Dr. Schonfeld offers several unsupported,

19   conclusory theories as to why it a POSITA in 2005-06 would have allegedly found it obvious to

20   combine Sonos's 2005 system with the identified functionality of Nourse's "centralized speaker

21   system" in the specific manner proposed by Dr. Schonfeld. However, in addition to the fact that Dr.

22   Schonfeld failed to provide any analysis as to how or why the combination of Sonos's 2005 and

23   Nourse achieves the specific controller-side "zone scenes" functionality required by Asserted

24   Claim 1 of the '966 Patent, I disagree with Dr. Schonfeld's theories for the reasons explained

25   below.

26   711.   For instance, at paragraph 384 of his Opening Report, Dr. Schonfeld says that a

27   POSITA would have been motivated to combine Sonos's 2005 system with Nourse because

28   Nourse is "analogous to the '885 patent" and "reasonably pertinent to the problem to be solved by

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Claim 16	Computing Devices Installed With the Sonos S2 App
[16.0] The non-transitory computer-readable medium of claim 9, **[16.1]** wherein receiving the first request comprises receiving a first set of one or more inputs via a user interface of the computing device,	As described above, each computing device installed with the Sonos S2 app for iOS or Android comprises a "non-transitory computer-readable medium," as recited in claim 9. Moreover, in accordance with the program instructions, each computing device installed with the Sonos S2 app for iOS or Android is programmed to receive a first request to create a first zone scene that takes the form of a first set of one or more inputs received via a user interface of the computing device installed with the Sonos S2 app for iOS or Android. *See* claim limitation 8.1.
[16.2] wherein receiving the second request comprises receiving a second set of one or more inputs via the user interface, and	In accordance with the program instructions, each computing device installed with the Sonos S2 app for iOS or Android is programmed to receive a second request to create a second zone scene that takes the form of a second set of one or more inputs received via the user interface. *See* claim limitation 8.2.
[16.3] wherein receiving the third request comprises receiving a third set of one or more inputs via the user interface.	In accordance with the program instructions, each computing device installed with the Sonos S2 app for iOS or Android is programmed to receive a third request to invoke the first zone scene that takes the form of a third set of one or more inputs received via the user interface. *See* claim limitation 8.3.

1612.   As I explain below, I have seen evidence that Sonos's S2 products and Sonos's zone scene technology has received significant praise in this industry by journalists and others in the audio space since Sonos's release of this technology in 2020. Because Sonos's S2 products practice the Asserted Claims of the '966 Patent, and because the praise is directed to these S2 products as well as to the specific "zone scene" features within these S2 products, it is my opinion that the evidence of the secondary considerations of non-obviousness has a sufficient nexus to the Asserted Claims of the '966 Patent.

B.   Evidence of Secondary Considerations of Non-Obviousness

1.   Praise by Others

1613.   I have seen evidence that Sonos's S2 products and Sonos's zone scene technology has received significant praise in this industry by journalists and others in the audio space since

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1   Sonos's release of this technology in 2020. This supports my opinion that the Asserted Claims of

2   the '966 Patent would not have been obvious to a POSITA at the time of the invention.

3   1614. For example, on May 7, 2020, *Executive Traveler* praised the Sonos S2 products

4   by stating "Sonos promises the S2 app's revamped screens "will make it even simpler for customers

5   to search for content and control sound", but we're most excited about the ability to save 'room

6   groups'." SONOS-SVG2-00062279 - SONOS-SVG2-00062291 at 285.

7   1615. As another example, on June 30, 2020, *Gearbrain* praised the Sonos S2 products

8   by recognizing that Sonos's zone scene technology "makes it easy to assign speakers to floors,

9   with groups called 'upstairs' and 'downstairs', within the app." SONOS-SVG2-00062342 -

10   SONOS-SVG2-00062346 at 344.

11   1616. As another example, on June 8, 2020, *CNN* touted the advantages of Sonos's zone

12   scene technology as "the best feature of [the] Sonos S2 [app]" because it provides "the ability to

13   save a group of speakers as a preset." SONOS-SVG2-00062361 - SONOS-SVG2-00062364 at

14   363.

15   1617. As another example, *Emotivv* praised the Sonos S2 products and Sonos's zone

16   scene technology by stating "[a] new feature called 'Room Groups', introduced in the Sonos S2

17   update, allows users to create lasting groups of particular zones that you often use in unison – the

18   lounge and kitchen, perhaps – so that you don't have to manually group the rooms together every

19   time. Ultimately, Sonos is still the smoothest multi-room set-up going." SONOS-SVG2-00062368

20   - SONOS-SVG2-00062369 at 368

21   1618. As another example, on May 6, 2020 *AI* praised the Sonos S2 products and Sonos's

22   zone scene technology by stating that the Sonos S2 products have "an improved user experience

23   and finally delivers saved room groups." SONOS-SVG2-00062381 - SONOS-SVG2-00062387 at

24   385.

25   1619. As another example, on March 17, 2020 *Engadget* praised the Sonos S2 products

26   and Sonos's zone scene technology by recognizing that "[c]urrently, you need to re-group all your

27   speakers on an individual basis," but Sonos's zone scene technology "should make common

28   grouping configurations much easier." SONOS-SVG2-00062403 - SONOS-SVG2-00062406 at

1   404.

2   1620. As another example, *TechRadar* recently praised the Sonos S2 products and

3   Sonos's zone scene technology by recognizing that Sonos's zone scene technology "should allow

4   you to get entire areas of your home – downstairs, for example – playing music much more quickly

5   than before." SONOS-SVG2-00062407 - SONOS-SVG2-00062415 at 408.

6   1621. As another example, on June 9, 2020 *Audioholics* praised the Sonos S2 products

7   and Sonos's zone scene technology by recognizing the "improved usability" with Sonos's zone

8   scene technology: "One new feature will be 'Room Groups,' which allows the user to create groups

9   of particular zones that are often used together — the kitchen and living room, the bedroom and

10   bathroom, etc. Before this update, users would have to group these zones together manually, each

11   time they started listening." SONOS-SVG2-00062429 – SONOS-SVG2-00062432 at 430.

12   1622. As another example, on May 7, 2020 *The Mac Observer* praised the Sonos S2

13   products and Sonos's zone scene technology by recognizing Sonos's "Room Groups" as "the most

14   beneficial announced feature" that "promises to make [ ] Sonos systems a little smarter about

15   keeping certain sets of speakers linked" and further describing the feature as a "convenience

16   benefit." SONOS-SVG2-00062433 – SONOS-SVG2-00062437 at 434.

17   1623. As another example, on March 17, 2020 *TechHive* praised the Sonos S2 products

18   and Sonos's zone scene technology by noting "the new OS and app will have a new feature called

19   'room groups,' which enable you to define a room containing several Sonos speakers and control

20   all of them at the same time. This could be very useful …." SONOS-SVG2-00062443 – SONOS-

21   SVG2-00062448 at 444.

22   1624. As another example, on June 8, 2020 *MobileSyrup* praised the Sonos S2 products

23   and Sonos's zone scene technology by noting "You can even link speakers together into pre-set

24   groups to set up a multi-room experience much quicker, which is handy if you have lots of

25   speakers. … Now, with these new groups, I can make a four-speaker group that I can push music

26   or podcasts to more quickly." SONOS-SVG2-00062449 - SONOS-SVG2-00062453 at 449.

27   1625. As another example, on January 14, 2021 *Yahoo! News* praised the Sonos S2

28   products and Sonos's zone scene technology by recognizing that "the ability to save room

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1   groupings" makes it "easier to play music in multiroom situations with just a tap or two." SONOS-

2   SVG2-00062454 - SONOS-SVG2-00062461 at 455.

3   1626.   As another example, on June 13, 2020 *Trusted Reviews* praised the Sonos S2

4   products and Sonos's zone scene technology by touting that "improvements have been made to

5   room groups" that "will remember commonly-grouped rooms, letting you target music to areas

6   faster than the current process, where rooms have to be individually grouped together." SONOS-

7   SVG2-00062469 - SONOS-SVG2-00062472 at 470.

8   1627.   I have also seen evidence that the accused Google products and the features accused

9   of infringing the Asserted Claims of the '966 Patent have received praise in this industry by

10   journalists and others in the audio space. This further supports my opinion that the Asserted

11   Claims of the '966 Patent would not have been obvious to a POSITA at the time of the invention.

12   In my opinion, there is a sufficient nexus between this evidence and the Asserted Claims of the

13   '966 Patent for at least the reason that the accused Google products practice the Asserted Claims

14   of the '966 Patent as I have opined in my Opening Expert Report.

15   1628.   As one example of praise for the accused Google products, *Venturebeat* praises the

16   accused products and their ability to create saved speaker groups, noting that this feature is

17   "amazing." SONOS-SVG2-00062098 - SONOS-SVG2-00062106 at 098, 100 (listing "10 things

18   to try with your new Google Home smart speaker," including "1. Make a speaker group," which

19   the article touts as "*amazing*").

20   1629.   As another example, *CNET* praises the accused products and their ability to create

21   saved speaker groups. SONOS-SVG2-00062107 - SONOS-SVG2-00062109 at 108 (offering "5

22   Google Home tips for people who love music," including "setting up a speaker group so that the

23   Google Home will play music on multiple speakers in your home," such that "when you select this

24   group, your rockin' tunes will lure partygoers out of your kitchen and to the other rooms in your

25   house where you've got speakers.");

26   1630.   As another example, *GamersNavy* praises the accused products and their ability to

27   create saved speaker groups.   SONOS-SVG2-00062262 - SONOS-SVG2-00062265 at 262

28   (touting Google "speaker group" functionality as a "*convenient feature* for those who want to mix

1   multiple cast devices for audio streaming.").

2   1631. As another example, on November 19, 2018, *Slash Gear* praises the accused

3   products and their ability to create saved speaker groups, explaining that the accused speaker group

4   functionality is a useful and effective feature.   SONOS-SVG2-00062266 - SONOS-SVG2-

5   00062275 at 266 (touting that Google's "speaker group" functionality "***effectively increases the***

6   ***number of audio products available in one's home***, giving them a greater number of options for

7   playing content," and "is ***useful*** for providing audio in more than one room at a time.").

8   1632. As another example, on November 19, 2018, *The Verge* praises the accused

9   products and their ability to create saved speaker groups, noting the same as a "handy feature."

10   SONOS-SVG2-00062276 - SONOS-SVG2-00062278 at 276 (touting Google "speaker group"

11   functionality as "a ***handy feature*** for those who want to combine multiple Google Cast-compatible

12   devices for simultaneous audio streaming.").

13   1633. As another example, on October 19, 2018, Google's own blog, *The Keyword*,

14   praises the accused products and their ability to create saved speaker groups. SONOS-SVG2-

15   00062292 - SONOS-SVG2-00062294 at 292-93 (Google Product Manager sharing "five reasons

16   we're excited about our newest Chromecast," including being "able to add Chromecast to speaker

17   groups, so you can listen to your music in sync throughout the house.").

18   1634. As another example, on November 3, 2016, *Ars Technica* praises the accused

19   products and their ability to create saved speaker groups, noting that it is a super easy way to set

20   up whole-home audio and a reason to buy the Google Home product. SONOS-SVG2-00062298 -

21   SONOS-SVG2-00062301 at 300 (recognizing Google's "speaker group" functionality and touting

22   that this functionality "allow[s] you to play synced audio across multiple devices in your home.

23   It's a lot like a Sonos—***a super easy way to set up whole-home audio***," and "it's ***one of the best***

24   ***reasons to buy a Google Home***.").

25   1635. As another example, on February 1, 2022 *Android Police* praises the accused

26   products and their ability to create saved speaker groups. SONOS-SVG2-00062325 - SONOS-

27   SVG2-00062330 at 328 (touting Google "speaker group" functionality as a "***simple and***

28   ***convenient*** way to group all your Google Home speakers.").

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1636. As another example, no February 12, 2018, *Make Use Of* praises the accused products and their ability to create saved speaker groups, calling it one of the best features of the accused products. SONOS-SVG2-00062331 - SONOS-SVG2-00062333 at 331 (touting that "***one of the best features*** you might overlook is the ability to group speakers into zones" by creating "speaker groups").

1637. As another example, on January 12, 2017, *Android Central* praises the accused products and their ability to create saved speaker groups, explaining that it is one of the coolest features and the reason that the Chromecast Audio is the "best solution" for a home audio setup. SONOS-SVG2-00062334 - SONOS-SVG2-00062337 at 334 (touting that "***[o]ne of the coolest features*** of Chromecast Audio and the Google Home app is the grouping setting, and "***this reason alone makes the Chromecast Audio the best solution*** for a complete home audio setup.").

1638. As another example, on December 22, 2019, *Mobile Syrup* praises the accused products and their ability to create saved speaker groups, calling it a "killer feature." SONOS-SVG2-00062338 - SONOS-SVG2-00062341 at 338 (touting that Google's "speaker group" functionality is "***one of Google Home/Nest device's killer features***.").

1639. As another example, on November 20, 2018, *Thurott* praises the accused products and their ability to create saved speaker groups. SONOS-SVG2-00062365 - SONOS-SVG2-00062367 at 365 ("I added the Chromecast Ultra in the living room, which is connected to our TV, and the Google Home and Lenovo Smart Display in our kitchen. So when I cast Google Play Music to the [speaker] group, it played via six different speakers (and/or speaker sets). ***Nice***.").

1640. As another example, *The Next Web* praises the accused products and their ability to create saved speaker groups. SONOS-SVG2-00062473 - SONOS-SVG2-00062477 at 474 (expressing excitement over Google's "speaker group" functionality: "***I'm pumped for this***, because I've got a decent-sounding Home speaker, and a Chromecast plugged into my TV (which is in turn connected to this soundbar), and I've been dreaming of having them play nice together.").

XVII. ALLEGED NON-INFRINGING ALTERNATIVES

1641. Dr Schonfeld sets forth opinions concerning two alleged "non-infringing alternatives," which he opines "were available at the time of the alleged first infringement."